AMENDMENTS TO THE CLAIMS

1. (currently amended) A printing device system comprising:

~~a printing device having firmware;~~

a replaceable printing device component storing a firmware patch <u>for a printing device</u> ~~for the firmware~~ <u>and a patch load routine, the replaceable printing device component being configured to be coupled</u> ~~and coupled~~ to the printing device; and

<u>a printing device having a memory unit storing firmware, the printing device being configured to download and execute the patch load routine;</u>

<u>wherein the patch load routing includes instructions that when executed cause the printing device to determine if the firmware patch stored on the replaceable printing device component has previously been used to patch the firmware and, upon a determination that the firmware patch has not been previously used to patch the firmware, loading the firmware into the memory unit to patch the firmware.</u>

~~wherein the printing device is configured to patch the firmware patch into the firmware.~~

2. (original) The printing device system defined in claim 1 wherein the replaceable printing device component comprises a memory unit, and the printing device firmware patch is stored in the memory unit.

3. (original) The printing device system defined in claim 2 wherein the replaceable printing device component comprises terminals, the printing device comprises a computing unit and a coupled communication link, and the terminals are operable to couple to the communication link, such that the replaceable printing device component memory unit couples to the printing device computing unit.

4. (original) The printing device system defined in claim 2 wherein the printing device comprises a computing unit that is operable to couple to the replaceable printing device component memory unit, the printing device computing unit is

configured to read the memory unit, and the replaceable printing device component memory unit is configured to be read by the computing unit.

5. (original) The printing device system defined in claim 1 wherein the replaceable printing device component is further storing data indicating where to load the firmware patch on a memory of the printing device.

6. (original) The printing device system defined in claim 1 wherein the replaceable printing device component is further storing data identifying a type of memory on which the firmware patch is to be loaded in the printing device.

7. (original) The printing device system defined in claim 1 wherein the replaceable printing device component is further storing data identifying a version of the firmware patch.

8. (original) The printing device system defined in claim 1 wherein the printing device comprises a non-volatile reprogrammable memory, and the printing device is configured to patch the firmware patch on the non-volatile reprogrammable memory when the firmware is stored on the non-volatile reprogrammable memory.

9. (canceled)

10. (original) The printing device system defined in claim 1 wherein the printing device comprises a volatile RAM, and the printing device is configured to patch the firmware when the firmware is stored on the volatile RAM.

11. (cancelled)

12. (original) The printing device system defined in claim 1 wherein the printing device is configured to check for firmware patches available from the replaceable printing device component.

13. (currently amended) The printing device defined in claim 1 wherein the printing device is configured to read data associated with the firmware patch, and applying the firmware patch according to the data.

14. (currently amended) The printing device defined in claim 1 wherein the printing device is configured to verify whether ~~the~~ media storing the firmware is compatible with the <u>firmware patch</u> ~~software object~~.

15. (original) The printing device defined in claim 1 wherein the replaceable printing device component stores data indicating the version of the firmware patch, and the printing device is configured to verify whether the version of the firmware patch is compatible with the firmware.

16. (withdrawn) A replaceable printing device component comprising a memory unit storing a printing device firmware patch.

17. (withdrawn) The device defined in claim 16 further comprising terminals to couple the memory to a printing device communication link.

18. (withdrawn) The device defined in claim 16 wherein the memory unit is configured to be read by a coupled printing device computing unit.

19. (withdrawn) The device defined in claim 16 wherein the memory unit is further storing data identifying the firmware patch.

20. (withdrawn) The device defined in claim 16 wherein the memory unit is further storing data indicating where to load the firmware patch on a memory of the printing device.

21. (withdrawn) The device defined in claim 20 wherein the data indicates at least one of a size of the firmware patch, a starting address in the memory where the

firmware patch is to be loaded, and an ending address in the memory where the firmware patch is to be loaded.

22. (withdrawn) The device defined in claim 16 wherein the memory unit is further storing data identifying a type of printing device memory on which the firmware patch is to be loaded.

23. (withdrawn) The device defined in claim 16 wherein the memory unit is further storing data identifying a version of the firmware patch.

24. (withdrawn) The device defined in claim 16 wherein the memory unit is further storing a patch load routine.

25. (currently amended) A printing device comprising:
a memory unit to store firmware;
a processing unit coupled to the memory unit; and
~~at least one of~~
~~a patch load routine stored in the memory unit that when executed by the processor, causes the processor to perform actions comprising patching firmware stored on the memory unit from a software object stored on a coupled replaceable printing device component; and~~
a routine stored in the memory unit to download ~~the~~ <u>a</u> patch load routine from the coupled replaceable printing device component~~;~~<u>:</u>
<u>wherein the processing unit is operable to execute the patch load routine downloaded to the memory and wherein the patch load routine includes instructions that when executed cause the processing unit to determine if a firmware patch stored on the coupled replaceable printing device component has previously been used to patch the firmware and, upon a determination that the firmware patch has not been previously used to patch the firmware, load the firmware in to the memory unit to patch the firmware.</u>

26. (cancelled)

27. (currently amended) The printing device defined in claim 25 wherein the patch load routine, when executed, causes the processing unit to read ~~patching action further comprises reading~~ data associated with the firmware patch[[,]] and to load the firmware in to the memory unit to patch the firmware ~~applying the software object~~ according to the data.

28. (currently amended) The printing device defined in claim 27 wherein the data includes at least one of version data, printing device memory type data, and memory location ~~on the computer readable media~~.

29. (currently amended) The printing device defined in claim 27 ~~25~~ wherein the patch load routine, when executed, causes the processing unit to operable to read the data to verify whether the firmware patch is appropriate for patching the firmware ~~patching action comprises verifying whether the software object stored on the replaceable printing device component is appropriate for patching the firmware~~.

30. (currently amended) The printing device defined in claim 29 wherein the memory unit comprises media to store the firmware; and wherein the verifying ~~action~~ comprises verifying whether the media storing the firmware is compatible with the software object.

31. (currently amended) The printing device defined in claim 29 ~~25~~ wherein the replaceable printing device component stores data indicating a version of the software object and ~~the~~ verifying ~~action~~ comprises verifying whether the version of the software object is compatible with the firmware.

32. (currently amended) The printing device defined in claim 25 wherein the memory unit comprises a media including at least one of a volatile RAM and a non-volatile reprogrammable memory~~, and the firmware to be patched is stored on the media, and wherein the patching action comprises patching the firmware on the media~~.

33. (currently amended) The printing device defined in claim [[25]] 32 wherein patch load routine, when executed, causes the processing unit to operable to:

load the firmware patch into the ~~patching the firmware into~~ a reprogrammable non-volatile memory of the printing device if the firmware is to execute from the reprogrammable non-volatile memory; and

load the firmware patch into the ~~patching the firmware into~~ a volatile RAM of the printing device if the firmware is to execute from the volatile RAM.

34. (currently amended) The printing device defined in claim ~~25~~ 29 wherein the ~~patching action further comprises reading from said replaceable printing device~~ ~~the~~ data includes printing device firmware versions to which the printing device firmware patch stored on the replaceable printing device component is applicable, and the patch load routine, when executed, causes the processing unit to operable to load the firmware patch into the memory unit to patch the firmware ~~patching said~~ ~~printing device firmware~~ only if a version of the firmware ~~said printing device~~ ~~firmware version~~ is one of the versions to which the printing device firmware patch stored on the replaceable printing device component is applicable.

35. (currently amended) A method comprising:

with ~~coupling~~ a replaceable printing device component coupled to a printing device, downloading, from the replaceable printing device component, a patch load routine to a memory of the printing device; ~~and~~

executing the patch load routine on the printing device to cause the printing device to determine if a firmware patch stored on the replaceable printing device component has previously been used to patch firmware of the printing device and, upon a determination that the firmware patch has not been previously used to patch the firmware, downloading the firmware to patch the firmware of the printing device .

~~patching printing device firmware stored on the replaceable printing device~~ ~~component into firmware of the printing device.~~

36. (currently amended) The method defined in claim 35 wherein downloading the firmware to patch the firmware of the printing device ~~said patching~~ comprises downloading the firmware ~~patching the firmware~~ into a reprogrammable non-volatile memory of the printing device.

37. (original) The method defined in claim 36 further comprising resetting the printing device after the patching action.

38. (currently amended) The method defined in claim 35 wherein downloading the firmware to patch the firmware of the printing device ~~said patching~~ comprises at least one of

downloading the firmware to ~~patching the firmware into~~ a reprogrammable non-volatile memory of the printing device if the firmware executes from the reprogrammable non-volatile memory; and

downloading the firmware to ~~patching the firmware into~~ a volatile RAM of the printing device if the firmware executes from the volatile RAM.

39. (currently amended) The method defined in claim 35, comprising ~~wherein said patching comprises~~ reading from said replaceable printing device [[a]] printing device firmware versions to which the printing device firmware patch stored on the replaceable printing device component is applicable, and downloading the firmware to patch the firmware on the printing device comprises downloading the firmware to the printer ~~patching said printing device firmware~~ only if a version of the ~~said~~ printing device firmware ~~version~~ is one of the versions to which the printing device firmware patch stored on the replaceable printing device component is applicable.

40. (cancelled)

41. (cancelled)

42. (cancelled)

43. (cancelled)

44. (cancelled)

45. (cancelled)

46. (cancelled)

47. (cancelled).

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